CLAIMS

What is claimed is:

1. A method comprising:

quantizing coefficients into quantized values, each quantized value having an integer part representing a base layer and a fractional part representing enhancement layers; and

encoding the fractional parts into an enhancement layer bitstream.

2. The method of claim 1 further comprising:

encoding the integer parts into a base layer bitstream.

3. The method of claim 1 further comprising:

transforming an input into the coefficients.

4. The method of claim 3 further comprising:

removing temporal redundancies exhibited by the input.

5. The method of claim 1, wherein the enhancement layers are frequency ordered.

6. A method comprising:

decoding an enhancement layer bitstream into quantized fractional values representing enhancement layers;

applying an inverse quantization to the quantized fractional values to create coefficients representing the enhancement layers;

applying an inverse transformation to the coefficients to create the enhancement layers; and

combining the enhancement layers with a base layer.

7. The method of claim 6 further comprising:
adding temporal redundancies to the base layer.

8. A method comprising:
decoding an enhancement layer bitstream into quantized fractional values representing enhancement layers;
applying an inverse quantization to the quantized fractional values to create coefficients representing the enhancement layers;
combining the coefficients representing the enhancement layers with coefficients representing a base layer; and
applying an inverse transformation to the combined coefficients.

9. The method of claim 8 further comprising:
adding temporal redundancies to the coefficients representing the base layer

10. A method comprising:
decoding an enhancement layer bitstream into quantized fractional values representing enhancement layers;
combining the quantized fractional values representing enhancement layers with quantized integer values representing a base layer;
applying an inverse quantization to the combined quantized values to create coefficients; and
applying an inverse transformation to the coefficients.

11. The method of claim 10 further comprising:

adding temporal redundancies to the quantized integer values representing the base layer.

12. A machine-readable medium containing instructions, which when executed by a machine, cause the machine to perform operations comprising:

quantizing coefficients into quantized values, each quantized value having an integer part representing a base layer and a fractional part representing enhancement layers; and

encoding the fractional parts into an enhancement layer bitstream.

13. The machine-readable medium of claim 12, wherein the operations further comprise:

encoding the integer parts into a base layer bitstream.

14. The machine-readable medium of claim 12, wherein the operations further comprise:

transforming an input into the coefficients.

15. The machine-readable medium of claim 14, wherein the operations further comprise:

removing temporal redundancies exhibited by the input.

16. The machine-readable medium of claim 12, wherein the enhancement layers are frequency ordered.

17. A machine-readable medium containing instructions, which when executed by a machine, cause the machine to perform operations comprising:

decoding an enhancement layer bitstream into quantized fractional values representing enhancement layers;

applying an inverse quantization to the quantized fractional values to create coefficients representing the enhancement layers;

applying an inverse transformation to the coefficients to create the enhancement layers; and

combining the enhancement layers with a base layer.

18. The machine-readable medium of claim 17, wherein the operations further comprise:

adding temporal redundancies to the base layer.

19. A machine-readable medium providing instructions, which when executed by a processing unit, cause the processing unit to perform operations comprising:

decoding an enhancement layer bitstream into quantized fractional values representing enhancement layers;

applying an inverse quantization to the quantized fractional values to create coefficients representing the enhancement layers;

combining the coefficients representing the enhancement layers with coefficients representing a base layer; and

applying an inverse transformation to the combined coefficients.

20. The machine-readable medium of claim 19, wherein the operations further comprise:

adding temporal redundancies to the coefficients representing the base layer.

21. A machine-readable medium providing instructions, which when executed by a processing unit, cause the processing unit to perform operations comprising:

decoding an enhancement layer bitstream into quantized fractional values representing enhancement layers;

combining the quantized fractional values representing enhancement layers with quantized integer values representing a base layer;

applying an inverse quantization to the combined quantized values to create coefficients; and

applying an inverse transformation to the coefficients.

22. The machine-readable medium of claim 21, wherein the operations further comprise:

adding temporal redundancies to the quantized integer values representing the base layer.

23. A system comprising:

a processor;

a memory coupled to the processor though a bus; and

an encoding process executed from the memory by the processor to cause the processor to quantize coefficients into quantized values, each quantized value having an integer part representing a base layer and a fractional part representing enhancement layers, and to encode the fractional parts into an enhancement layer bitstream.

24. The system of claim 23, wherein the encoding process further causes the processor to encode the integer parts into a base layer bitstream.

25. The system of claim 23, wherein the encoding process further causes the processor to transform an input into the coefficients.

26. The system of claim 25, wherein the encoding process further causes the processor to remove temporal redundancies exhibited by the input.

27. The system of claim 23, wherein the enhancement layers are frequency ordered.

28. A system comprising:

a processor;

a memory coupled to the processor though a bus; and

a decoding process executed from the memory by the processor to cause the processor to decode an enhancement layer bitstream into quantized fractional values representing enhancement layers, to apply an inverse quantization to the quantized fractional values to create coefficients representing the enhancement layers, to apply an inverse transformation to the coefficients to create the enhancement layers, and to combine the enhancement layers with a base layer.

29. The system of claim 28, wherein the decoding process further cause the processor to add temporal redundancies to the base layer.

30. A system comprising:

a processor;

a memory coupled to the processor though a bus; and

a decoding process executed from the memory by the processor to cause the processor to decode an enhancement layer bitstream into quantized fractional values representing enhancement layers, to apply an inverse quantization to the quantized

fractional values to create coefficients representing the enhancement layers, to combine the coefficients representing the enhancement layers with coefficients representing a base layer, and to apply an inverse transformation to the combined coefficients.

31. The system of claim 30, wherein the decoding process further cause the processor to add temporal redundancies to the coefficients representing the base layer

32. A system comprising:

a processor;

a memory coupled to the processor though a bus; and

an decoding process executed from the memory by the processor to cause the processor to decode an enhancement layer bitstream into quantized fractional values representing enhancement layers, to combine the quantized fractional values representing enhancement layers with quantized integer values representing a base layer, to apply an inverse quantization to the combined quantized values to create coefficients, and to apply an inverse transformation to the coefficients.

33. The system of claim 32, wherein the decoding process further cause the processor to add temporal redundancies to the quantized integer values representing the base layer.

34. An apparatus comprising:

a transformation component coupled to an input to create coefficients from the input;

a quantization component coupled to the transformation component to create quantized values from the coefficients, each quantized value having an integer part representing a base layer and a fractional part representing enhancement layers;

a first encoding component coupled to the quantization component to create a base layer bitstream from the integer parts; and

a second encoding component coupled to the quantization component to create a an enhancement layer bitstream from the fractional parts.

35. The apparatus of claim 34 further comprising:

a reconstruction loop coupled to the quantization component and to the input to remove temporal redundancies from the input.

36. The apparatus of claim 34 further comprising:

a reconstruction loop coupled to the quantization component and to the transformation component to remove temporal redundancies from the coefficients.

37. The apparatus of claim 34 further comprising:

a reconstruction loop coupled between the quantization component and the first encoding component to remove temporal redundancies from the integer parts.

38. The apparatus of claim 34, wherein the enhancement layers are frequency ordered.

39. An apparatus comprising:

a decoding component coupled to an enhancement layer bitstream to create quantized fractional values representing enhancement layers from the enhancement layer bitstream;

an inverse quantization component coupled to the decoding component to create coefficients from the quantized fractional values;

a first inverse transformation component coupled to the inverse quantization component to create the enhancement layers from the coefficients; and

an addition component coupled to the first inverse transformation component and further to a second inverse transformation component to combine the enhancement layers with a base layer from the second inverse transformation component.

40. The apparatus of claim 39 further comprising:

a prediction loop coupled to the second inverse transformation component to add temporal redundancies to the base layer.

41. An apparatus comprising:

a decoding component coupled to an enhancement layer bitstream to create quantized fractional values representing enhancement layers from the enhancement layer bitstream;

a first inverse quantization component coupled to the decoding component to create coefficients from the quantized values;

an addition component coupled to the first inverse quantization component and further to a second inverse quantization component to combine the coefficients from the first inverse quantization component with coefficients from the second inverse quantization; and

an inverse transformation component coupled to the addition component to create combined enhancement and base layers from the coefficients.

42. The apparatus of claim 41 further comprising:

a prediction loop coupled to the second inverse quantization component to add temporal redundancies to the coefficients from the second quantization component.

43. An apparatus comprising:

a first decoding component coupled to an enhancement layer bitstream to create quantized fractional values representing enhancement layers from the enhancement layer bitstream;

an addition component coupled to the first decoding component and further to a second decoding component to combine the quantized fractional values from the first decoding component with quantized integer values from the second decoding component;

an inverse quantization component coupled to the addition component to create coefficients from the quantized values; and

an inverse transformation component coupled to the inverse quantization component to create combined enhancement and base layers from the coefficients.

44. The apparatus of claim 43 further comprising:

a prediction loop coupled to the second decoding component to add temporal redundancies to the quantized integer values.